Administrative Report (FY 2001) and Workplan (FY 2002) for Biological Inventories and Vital Signs Monitoring

Mediterranean Coast Network

October 30, 2001

Submitted by:

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I. Overview and Objectives

In Fiscal Year 2000, using funds provided through the National I&M program, the Mediterranean Coast Network—composed of three parks in coastal southern California: Cabrillo National Monument (CABR), Channel Islands National Park (CHIS), and Santa Monica Mountains National Recreation Area (SAMO)—began an inventory of vascular plants and vertebrate species. In this first year, the network collected existing inventory information; held a scientific workshop to assess the state of current knowledge, identify remaining gaps and discuss how to fill those gaps; and developed a study plan to complete park inventories within five years. The following year, FY 2001, the network finished collection of existing species inventory information and initiated field work to inventory reptiles and amphibians. The network received $201,777 in FY 2001 to conduct this work. In FY 2002, the network will continue with an inventory of reptiles and amphibians for CHIS, and inventories of bats, exotic plant species, and rare plant species in all three parks. Funding in the amount of $266,082 was allocated to these inventories for FY 2002.

In FY 2001, the network also received $150,000 to plan and initiate a Vital Signs monitoring program and $76,000 to begin water quality monitoring. Workplans were developed for both Vital Signs and water quality monitoring. FY01 Vital Signs funds were used to supplement existing monitoring programs at CABR and SAMO (CHIS' monitoring program was funded earlier through the I&M Prototype program) and, through a cooperating agency, to support one or more Vital Signs workshops planned for FY 2002. The monitoring workplan identified four steps to move beyond individual park programs toward an integrated network-wide monitoring program:

1. Compile and summarize existing information on monitoring programs and stewardship issues;
2. Seek to identify additional park-specific management issues, stressors, and Vital Signs to monitor;
3. Hold workshop(s) to identify network issues and to determine overlap of park issues, identify indicators and potential monitoring strategies, and generally evaluate programs in terms of overall network monitoring needs and priorities; and
4. Develop a network Vital Signs monitoring plan to fill gaps and meet network goals.

An ecologist will be hired in Fall 2001 to coordinate work on these steps and FY02 funding ($150,000) will be spent on salary for the network ecologist, monitoring technicians for CABR and SAMO, and a technician, stationed at SAMO, to provide GIS and database support. A Vital Signs workshop will be held at SAMO in the Spring. The network anticipates that an integrated network workshop will be held the following fall.

Additionally in FY 2001 a water quality monitoring workplan was developed addressing three main objectives:

1. Collect, compile, and evaluate known information about fresh, estuarine, and marine water resources and water quality monitoring among the network parks;
2. Support and/or complete ongoing baseline water quality data collection in the network parks, specifically at SAMO and CHIS; and
3. Develop a long-term strategy to implement appropriate water quality monitoring programs, including consideration of existing efforts from cooperating agencies across the network and the provision of NPS staff and resources to coordinate and manage such a strategy.

Initial funding (received in FY 2001) was used to support the first two objectives, while FY02 funding will allow the network to work on all three objectives with implementation of the long-term program

beginning in FY 2003. The network receives $76,000 annually from the Water Resource Division to support water quality monitoring.

This document reports on FY 2001 accomplishments and outlines the FY 2002 workplan for the network biological inventories and Vital Signs monitoring program. As a prototype park, CHIS monitoring programs were developed, implemented and funded separately. Thus, CHIS' monitoring accomplishments and activities will be reported separately and are not included in this report. Existing monitoring activities for SAMO and CABR are included where they were fully or partially funded through the servicewide I&M program Vital Signs monitoring and water quality monitoring funding.

II. Accomplishments (FY2001) and Scheduled Activities (FY2002)

A. Biological Inventories

Objective 1 – Hire key personnel to implement the network inventories.

FY 2001 Accomplishments: An existing SAMO GIS Specialist was selected to coordinate implementation of the network inventories. Inventory funds went to SAMO to pay for a portion of the coordinator's time. Two technicians, hired in the initial planning year to compile existing data and assist with data entry and workshop logistics, continued through FY 2001 in a similar capacity. Funding allocation: $39,958 (This funding was allocated for the coordinator's salary. Technician salary is included under appropriate inventory tasks.)

Scheduled FY 2002 Activities and Products: The SAMO GIS Specialist will continue as Inventory Coordinator through FY02. About half of this position will be dedicated to work on the biological inventories. Funds will be moved to the USGS-BRD at the CHIS field station to support a coordinator and a technician for the CABR and CHIS exotic plant and rare plant surveys. The network will hire a technician to implement exotic and sensitive plant surveys at SAMO. Additionally, SAMO will hire a technician who will dedicate half-time to assistance with the SAMO plant surveys. Funding allocation: $29,820 (This funding is allocated for the coordinator's salary. Technician salary is included under appropriate inventory tasks.)

Objective 2 – Compile and evaluate existing data for each park and enter into NPS databases.

Task 2.1 – Review and compile existing information on plants (all parks).
FY 2001 Accomplishments:

(a) Geographic and tabular data from 1998 helicopter surveys for weedy species on Santa Rosa and San Miguel Islands were completed and reorganized. Digitizing was completed through an existing contract with a private vendor. Data were entered into CHIS' PlantSightings database and into NPSpecies.
(b) The network acquired an existing database developed by Dr. Gary Wallace of the Rancho Santa Ana Botanic Garden (RSABG). This database represents over 10 years of voucher specimen searches at various herbaria for Channel Islands plant species. An inventory technician reformatted the digital portion of the database and added additional records based on Dr. Wallace's hand-written notes. The Los Angeles Museum of Natural History agreed to publish the database in a technical document and the network transferred $2,000 to the museum to assist with publication costs. The data will also likely be published on the web in future years to encourage additional review and comment.
(c) CABR vegetation monitoring data were analyzed and abundance category estimates were obtained. These data were entered into NPSpecies.
(d) Databases at Santa Barbara Botanic Garden (SBBG) and RSABG were queried for CHIS and CABR

plant species records. These data were compiled and entered into NPSpecies.

(e) The herbaria at SBBG and RSABG are currently digitizing their collections, but the databases are only 10-20% complete and both institutions anticipate "years" before this task is finished. Thus an inventory technician spent substantial time at SBBG manually looking through voucher specimens for CHIS species. A total of 1,022 voucher specimens records for CHIS and 231 for CABR were located and entered into NPSpecies. The records entered into NPSpecies represent about 10% of the total Channel Islands collection at SBBG. The main focus of the CHIS search was to acquire one record for each species for each island.

(f) An inventory technician searched the herbaria at San Diego Museum of Natural History and San Diego State University for voucher specimens from CABR. A total of 130 records from these institutions were entered into NPSpecies.

(g) The network developed a cooperative agreement with UCLA to revise the Santa Monica Mountains Flora. The work will include expansion of the flora to include the Simi Hills (an area within SAMO, but not included in the original flora), update of the taxonomy, verification of specimen repository, geo-referencing of collection location, collection of additional specimens where necessary, park checklists, and development of more systematic ecological information. An independent botanist was contracted to provide review and additional expert assistance with the projects. Additional funds will be sought to support publication of the revised flora in hardcopy and on the web. Dr. Arthur Gibson and Dr. Barry Prigge (one of the co-authors of the original flora) began work on the revision in Spring 2001 with field surveys of the Simi Hills and a review of voucher specimens at the UCLA Botanic Garden.

Funding Allocation: $77,209

Scheduled FY 2002 Activities and Products:

(a) Continue work on the flora revision for SAMO. By the end of FY02, complete data entry and edit NPSpecies records to reflect the flora revisions. Seek additional funds to support publication of the revised flora.

(b) Coordinate data entry into NPSpecies and other NPS databases with parks, contractors, and cooperators as necessary.

Funding Allocation: $0

Task 2.2 – Identify, collect and process voucher specimens (all parks).

FY 2001 Accomplishments:

(a) A local botanist was funded to process newly collected specimens for the expanded Santa Monica Mountains Flora. Work will be done in FY02.

(b) A network technician identified priority specimens at CHIS for voucher processing. A procedure for processing the backlog of specimens was developed and implemented. Approximately 75-100 vouchers remain to be processed for the inventory. When completed, these vouchers will reside at the SBBG herbarium.

Funding Allocation: $12,187

Scheduled FY 2002 Activities and Products:

(a) Continue processing CHIS vouchers and deposit at SBBG for accessioning into the herbarium collection.

(b) Newly collected SAMO voucher specimens will be processed and accessioned into the UCLA herbarium collection.

Funding Allocation: $4,969

Task 2.3 – Document bird species checklists (all parks).

FY 2001 Accomplishments:

(a) A network technician searched collections at the Western Foundation for Vertebrate Zoology, University of California Los Angeles, Los Angeles County Museum of Natural History, San Diego Natural History Museum, and Santa Barbara Museum of Natural History for bird voucher records for each park. All data were entered into NPSpecies.
(b) A database of bird vouchers for the Channel Islands developed by Paul Collins, Santa Barbara Natural History Museum, was acquired, digitized and returned for proofing. The records were entered into NPSpecies. Mr. Collins has also collected reliable sightings data and a bibliography of bird species for the Channel Islands. Additional funding will be sought to acquire and digitize these databases. Ultimately, this bird information will be used by Paul Collins for a book on birds of the Channel Islands.

Funding Allocation: $23,175

Scheduled FY 2002 Activities and Products: Coordinate data entry into NPSpecies and other NPS databases with parks, contractors, and cooperators as necessary. Funding Allocation: $0

Task 2.4 – Review and compile existing information on fish (all parks).
FY 2001 Accomplishments: A network technician searched collections at University of California Los Angeles, Los Angeles County Museum of Natural History, and Scripps Institute of Oceanography for fish voucher records for each park. All data were entered into NPSpecies. Funding Allocation: $15,675

Scheduled FY 2002 Activities and Products: Coordinate data entry into NPSpecies and other NPS databases with parks, contractors, and cooperators as necessary. Funding Allocation: $0

Objective 3 – Complete the documentation of 90% of vertebrate and vascular plant species in the parks through targeted field investigations.

Task 3.1 – Rare, threatened, or endangered plant species surveys (all parks)
Scheduled FY 2002 Activities and Products:
(a) Develop peer-reviewed study plan for sampling vegetation, plan logistics and hire seasonal biological technician for CHIS surveys. Hire biological technicians for SAMO surveys. (Note: To make the most efficient use of funds, time, and personnel, Rare, Threatened, or Endangered Plant Surveys will be conducted in conjunction with Invasive Exotic Plant Surveys.)
(b) Develop a cooperative agreement for rare and exotic plant surveys with San Diego State University funded jointly by the U.S. Navy/Point Loma Naval Reserve, and CABR.
(c) Visit all known populations of Federally listed plant taxa at CABR and on Santa Cruz Island. Select populations for demographic study and sample population size/stage structure in permanent plots (for the first of three years) to determine abundance and range in abundance.
(d) Locate in the field known populations of sensitive species at SAMO. Accurately map and measure populations. Identify, map and survey potential habitat for high-priority species.
(e) Enter data into NPSpecies.

Funding allocation: $5,000 (CABR), $58,122 (CHIS), $34,873 (SAMO) (Note: This represents combined funding for both Task 3.1 and Task 3.2)

Task 3.2 – Invasive exotic plant species surveys (all parks)
Scheduled FY 2002 Activities and Products:
(a) Develop peer-reviewed study plan for sampling vegetation, plan logistics and hire seasonal biological technician for CHIS surveys. Hire biological technicians for SAMO surveys. (Note: To make the most efficient use of funds, time, and personnel, Rare, Threatened, or Endangered Plant Surveys will be conducted in conjunction with Invasive Exotic Plant Surveys.)
(b) Develop a cooperative agreement for rare and exotic plant surveys with San Diego State University

funded jointly by the U.S. Navy/Point Loma Naval Reserve, and CABR.

(c) Conduct plot-based sampling of island vegetation (herbaceous communities) to determine the distribution and abundance of exotic plant species on Santa Cruz Island. Describe the relative abundance of invasive exotic plants by community type and landscape position. Create a spatial surface model of invasive plant abundance.

(d) Convene workshop with local botanists and land managers to identify known populations of invasive exotic species at SAMO. Locate populations in the field, map populations and describe abundance. Identify potential habitat for high priority exotic species and survey potential habitat for additional populations.

(e) Enter data into NPSpecies

Funding allocation: $5,000 (CABR), $58,122 (CHIS), $34,873 (SAMO) (Note: This represents combined funding for both Task 3.1 and Task 3.2)

Task 3.3 – Riparian understory shrub and herbaceous plant species surveys (SAMO)
Scheduled FY 2002 Activities and Products: This project is currently unfunded. The network will seek outside funding to implement this project. Funding Allocation: $0

Task 3.4 – Bat surveys (all parks)
Scheduled FY 2002 Activities and Products:

(a) A thorough, year-round survey for bat species will be conducted to determine which species forage at, migrate through, or reside on Point Loma (CABR). Methods employed will be acoustic scouting surveys, mist-netting at sites with significant bat activity, and roost surveys for potential bat roosting sites (historic structures, caves, etc.). Products will include seasonal field reports, a final report (with management and long-term monitoring recommendations), plus immediate reporting to park staff of any significant species observations. The work will likely be completed through agreement with USGS-BRD.

(b) Inventory work for bats on the Channel Islands will focus on previously un-surveyed areas and areas where bats are known to exist but where past surveys were incomplete or seasonal in nature. Two of the smaller islands, Anacapa and Santa Barbara, have very few historical records of bats and support little potential bat habitat. San Miguel Island likely has bats, but weather and wind conditions make surveys difficult. Allocated funds will therefore be utilized to survey the northern riparian areas of Santa Rosa Island, the ranch buildings on Santa Rosa, and several specific sites on Santa Cruz Island where bats are known to roost. Surveys will be conducted using bat detectors, mist nets, and possibly remote sensing equipment such as Anabat detectors.

(c) SAMO will select a contractor to establish bat mist net sites, run bat detectors and analyze their output, inspect structures for bat use and present a report of results. The contractor will train a crew of Santa Monica Mountains NRA biologists in bat identification, mist-netting, and use of Anabat and/or Pettersson bat detectors and associated software.
Funding Allocation: $5,000 (CABR), $30,000 (CHIS), $40,000 (SAMO)

Task 3.5 – Small mammal surveys (CABR and SAMO)
Scheduled FY 2002 Activities and Products: Finalize study design, assess habitat, and stratify sampling by vegetation type for CABR. Inventory small mammals at CABR through interagency agreement with USGS-BRD. Funding Allocation: $0

Task 3.6 – Breeding raptor inventory (all parks)
Scheduled FY 2002 Activities and Products: Identify potential raptor nest habitat. Survey potential habitat in major stream canyons for raptor nests. Funding Allocation: $0

Task 3.7 – Survey reptiles and amphibians (all parks)

FY 2001 Accomplishments:

(a) In a joint effort with the Santa Monica Mountains Resource Conservation District, USGS-BRD, Pepperdine University and the National Park Service, 35 stream sites in SAMO were surveyed for the presence and reproductive success of native amphibians. Water quality measurements and stream flow data were collected, and non-native species presence was also recorded. 75 vials of benthic aquatic invertebrates were collected and will be sent to a lab to initiate a baseline inventory of invertebrate diversity.

(b) At CABR, an existing reptile and amphibian inventory in cooperation with the USGS-BRD, was continued to meet inventory objectives. Using the same protocol, pitfall trap arrays were installed and sampled at SAMO to survey upland habitats for terrestrial reptiles and amphibians. Directed searches were also used at CABR to inventory species not captured in pitfall trap arrays.

Funding allocation: $33,573 (Portions of this task were also supported with Water Quality and Vital Signs Monitoring funds.)

Scheduled FY 2002 Activities and Products: At CHIS, in cooperation with experts and park staff, identify appropriate sampling methods and study design, select sampling sites, install sampling equipment (e.g. cover boards, snake traps, etc.), sample reptiles and amphibians. Funding allocation: $58,298

Vital Signs Monitoring

Objective 4 – Hire key personnel to implement the network monitoring program.

FY 2001 Accomplishments: CABR and SAMO hired monitoring technicians. Funding Allocation: $15,000 (For CABR monitoring technician. SAMO technician salary included in Task 8.2)

Scheduled FY 2002 Activities and Products: The network will hire a permanent full-time monitoring coordinator at a GS-11/12 to start in early 2002. This position will be filled by a quantitative ecologist who initially will be responsible for assessing and integrating existing programs and data and developing a cohesive network Monitoring Plan. Upon approval and implementation of the plan, the coordinator will ensure that data are properly stored and documented, analyze and synthesize collected data, report results, and market the network Vital Signs program both within and outside the NPS. A water quality monitoring coordinator will be hired at a GS-11 to help design and implement a Network Water Quality Monitoring Plan in coordination with the Vital Signs monitoring program. An I&M database/GIS technician on staff at SAMO will be supported part-time to provide network GIS and database services. Funding allocation: $120,000

Objective 5 – Develop a network charter and form a Board of Directors and Technical Committee.

FY 2001 Accomplishments: The network developed a charter outlining the composition and operating procedures of the Board of Directors (the three park superintendents). The charter was reviewed and signed by the Board of Directors and submitted to the national I&M program. Funding allocation: $0

Scheduled FY 2002 Activities and Products: A technical committee will be formed to steer the program, provide recommendations to the BOD and assist with data gathering, scoping sessions, and work planning. The committee will be composed of park resource and I&M staff. A complete list of participants will be presented to the Board of Directors for approval. Funding allocation: $0

Objective 6 – Design integrated network Vital Signs monitoring program.

Task 6.1 – Identify additional park-specific management issues, stressors, and Vital Signs to monitor
FY 2001 Accomplishments: Funding was obligated through cooperative agreement to support a SAMO Vital Signs workshop to be held in FY02. Funding allocation: $7,000

Scheduled FY 2002 Activities and Products: A workshop to determine park ecosystem Vital Signs for SAMO will be held in the spring. Funding allocation: $0 (FY 2001 funds were allocated to this task.)

Task 6.2 – Summarize existing data and understanding and hold a water quality monitoring workshop.
FY 2001 Accomplishments: The network obligated funds to the Resource Conservation District of the Santa Monica Mountains through a cooperative agreement to hire a water quality technician to collect, compile, and evaluate water quality data from all network parks. Funding Allocation: $31,200

Scheduled FY 2002 Activities and Products:
(a) Existing water quality data and information on existing monitoring efforts in the three parks (including monitoring conducted by other agencies) will be collected, compiled and evaluated. These data will be used to identify monitoring gaps and data needs for a future long-term monitoring strategy for the network. This component was funded through cooperative agreement with FY01 funds.
(b) A network-wide water quality monitoring workshop will be held in the spring or summer of 2002.
Funding Allocation: $9,000

Task 6.3 – Compile and summarize existing information and hold workshop to identify network issues and determine overlap of park issues
FY 2001 Accomplishments: A workplan and budget for Vital Signs startup funding was developed and approved. Funding allocation: $0

Scheduled FY 2002 Activities and Products: The Network Monitoring Coordinator will review Resource Management Plans and summarize current and historical monitoring programs in the region including fire effects, threatened and endangered species, water quality, air quality, physical processes, and other resources. Superintendents and resource managers will be interviewed from each park in the network to identify current and needed monitoring activities. Monitoring conducted by neighboring agencies, partners, and parks will be summarized for the region. This information will provide essential background for the development of an integrated network monitoring program. Planning for a network-wide Vital Signs monitoring workshop will be initiated. Funding allocation: $0 (These tasks are included among duties of network monitoring coordinator.)

Objective 7 – Implement park Vital Signs monitoring program.

Task 7.1 – Acquire infrastructure needed to support Vital Signs monitoring.
FY 2001 Accomplishments: The network purchased and installed office furniture, computers, and telephones needed to support I&M staff. SAMO increased capacity and upgraded GIS to accommodate increased data storage and processing capacity for I&M projects and databases. SAMO purchased and installed file cabinets to physically house NPBib documents and I&M files. Funding allocation: $52,000

Task 7.2 – Monitor reptiles and amphibians (CABR and SAMO).
FY 2001 Accomplishments: Monitoring funds supported field inventory of reptiles and amphibians needed to develop baseline data for future Vital Signs monitoring. (See Inventory Task 3.7 for further information.) Funding allocation: $70,100

Scheduled FY 2002 Activities and Products: Reptile and amphibian work in SAMO will continue as the program begins a transition from inventory to monitoring. Pitfall traps will continue to be assessed throughout areas of the park where they were previously installed and new sites will be added to complete the inventory across the park. Ongoing reptile and amphibian monitoring will continue at CABR. Funding Allocation: $27,000 (For technician salary. Note: much of the support for these efforts will be provided from outside funding sources or park base accounts.)

Task 7.3 – Monitor stream biological and physical characteristics.
FY 2001 Accomplishments: Water quality monitoring funds supported field assessment of stream biological and physical characteristics needed to develop baseline data for future Vital Signs monitoring. (See Inventory Task 3.7 for further information). Funding allocation: $20,500

Scheduled FY 2002 Activities and Products:
(a) CHIS will continue to monitor vegetation and stream morphology change on Santa Rosa Island, including: conducting Level II characterization of the Old Ranch Watershed (Rosgen Channel Classification); monitoring fifty-six nested-rooted frequency and cover riparian transects established in the Quemada Stream drainage; re-surveying nine precise cross-section profiles in the Old Ranch stream to measure changes in channel morphology; and establishing a 1,000 meter stream condition assessment transect (using R5 Forest Service Stream Condition Assessment Protocol) in Arlington Stream. This information will be summarized in a report that will be given to the Central Coast Regional Water Quality Control Board as part of the Park's effort to rescind a Cleanup or Abatement Order. Road improvements will also be documented and presented as part of the rescission package.
(b) Complete baseline inventory of estuaries on Santa Rosa and Santa Cruz Islands. Complete laboratory analysis of marine water quality samples for CHIS.
(c) Water Quality funds will be used at SAMO to continue the comprehensive stream inventory initiated previously with inventory funding. In particular, technician support will be provided to ensure that the important stream monitoring baseline data are collected in the 35 target streams.
Funding allocation: $29,000

Task 7.4 – Monitor plants.
Scheduled FY 2002 Activities and Products: Inventory invasive exotic plant species to develop baseline data and assess need for potential Vital Signs monitoring. Funding Allocation: $17,000 (For technician salary. See Inventory Task 3.2d for further information.)

Task 7.5 – Implement CABR Vital Signs monitoring.
Scheduled FY 2002 Activities and Products: Continue to monitor tidepools, vegetation communities, and air quality as described in monitoring plan. Funding Allocation: $24,000 (For technician salary.)

III. Staffing
Denise Kamradt, Biological Inventories Coordinator
Network Monitoring Coordinator/Quantitative Ecologist, TBA
Katie Chess, USGS Biological Science Technician (Biological Inventories)
Lena Lee, GIS Technician (Biological Inventories)
Network Water Quality Monitoring Coordinator, TBA

IV. Public Interest Highlights

(1) Early warnings of abalone population collapses (five species) in Channel Islands National Park led to fishery closures that prevented extinction and to the first marine invertebrate endangered species listing.

(2) Understanding of intertidal community dynamics in Cabrillo National Monument prevented unnecessary litigation over apparent pollution impacts, and proactively engaged local citizens in restoration and protection of monument tide pools.

(3) Early warning of island fox population declines and understanding ecological connections among 19th century ranching, feral pigs, alien fennel, DDT, bald eagles, golden eagles, and foxes led to timely restoration efforts in Channel Islands National Park.

(4) Population dynamics information on alien rabbits and feral pigs guided effective eradication of those species that initiated island recovery and prevented extinction of endemic species in Channel Islands National Park.

(5) Documented population declines of species taken from Channel Islands National Park kelp forests by legal fishing and consequent persistent loss of 80% of park kelp forests prompted passage of state laws to revise marine resource management strategies and protection in California through use of marine protected areas.

(6) The newly implemented inventory/monitoring of stream conditions at SAMO has already had fairly dramatic results. It is very obvious that streams that go through urban areas are very different than those that are in natural areas. The water quantity is much higher in urban areas, the habitat characteristics and structure of urban streams vary, and the presence of exotics is much greater. These results are being investigated in greater detail through ongoing monitoring and the information has already been disseminated to the media and other sources. Local environmental groups and other agencies are looking to the NPS for reliable and scientifically credible information on how streams are altered when developments occur within specific watersheds.

(7) Ongoing carnivore monitoring at SAMO, including monitoring carnivore movements along freeway barriers, has resulted in the re-evaluation of proposed development projects along critical wildlife movement corridors. For example, in the City of Agoura Hills, the local planning commission recommended detailed wildlife corridor impact analyses for development projects located adjacent to a wildlife movement corridor linking park areas between the Santa Monica Mountains and Simi Hills. This recommendation was based on data available from the NPS carnivore monitoring efforts from this and nearby areas.

V. Reports, Publications and Presentations

A presentation on preliminary results of the SAMO reptile and amphibian inventory was provided at the 2000 Annual Meeting of the Wildlife Society.

Several presentations on ongoing carnivore monitoring in SAMO were presented at the 2000 Annual Meeting of the Wildlife Society, the Carnivores 2000 Conference, an International Canid Conference (London, England), and other local meetings and conferences.

Three reports from SAMO carnivore monitoring were submitted for publication:

York, E.C., T.L. Moruzzi, T.K. Fuller, J. Organ, R.M. Sauvajot, and R.M. DeGraff. In press. Description and evaluation of an inexpensive remote camera and triggering system for monitoring carnivores. Wildlife Society Bulletin.

Riley, S.P.D., Sauvajot, R.M., T.K. Fuller, E.C. York, D.A. Kamradt, C. Bromley, and R.K. Wayne. In review. Effects of urbanization and habitat fragmentation on bobcats and coyotes in southern California. Conservation Biology.

Ng, S.J., J. Dole, R.M. Sauvajot, S.P.D. Riley, and T. Valone. In review. Culverts, tunnels and underpasses beneath highways: are they wildlife corridors? Biological Conservation.

VI. Status of Park Vital Signs Monitoring

The following table shows the number of parks with ongoing and planned monitoring in the Mediterranean Coast Network:

	Air Quality	Water Quality	Water Quantity	Geologic Resources	Plants	Animals	Land-scape Charac-teristics	Compon-nets not yet deteter-mined
Planning and Design								
# parks (planning) monitoring w/ NRC funding	0	3	0	0	2	2	0	3
# parks monitoring w/ other funding	0	3	0	0	0	0	0	3
Protocols Implemented								
# parks monitoring w/ NRC funding	0	0	0	0	2	2	0	0
# parks monitoring w/ other funding	0	0	0	0	1	2	0	0
Analysis/Synthesis Available								
# parks monitoring w/ NRC funding	0	0	0	0	0	0	0	0
# parks monitoring w/ other funding	0	0	0	0	1	1	0	0

VII. Budget

Budget Narrative:

FY2001
The network received $149,500 from the NPS Servicewide I&M program for biological inventories. Additionally, $52,273 of unobligated FY00 funds remained with the USGS-BRD to be used for FY 2001 inventory. These funds were allocated for a Biological Inventory Coordinator, technician time for collection and data entry of existing inventory information, field personnel and equipment for herpetofauna inventory at SAMO and CABR, acquisition of existing data through contract, and a cooperative agreement to revise the SAMO flora. In FY 2001, the amount spent outside of the NPS was $52,273 through agreement with the USGS and $45,200 for non-federal outsourcing.

Additionally, the network received $150,000 in "startup" Vital Signs monitoring funding from the NPS Servicewide I&M program and $76,000 from the Water Resources Division for water quality monitoring. These funds were used to acquired infrastructure (e.g. office furniture, computers, phones, storage) and field equipment and supplies needed to support the network inventory and monitoring program. Existing inventory/monitoring activities were supported at CABR and SAMO with funding for personnel and field

equipment. These funds supplemented inventory and park base funding. Funds were allocated toward a SAMO Vital Signs scoping workshop, anticipated for spring 2002, through cooperative agreement. Water quality funds were also used to implement monitoring of streams on Santa Rosa Island. In FY 2001, the amount spent outside of the NPS was $63,288 for non-federal outsourcing.

FY2002
In FY 2002, the network will receive $266,082 from the NPS Servicewide I&M program for biological inventories. These funds will be used to initiate bat, invasive exotic plant species, and rare and sensitive plant species inventories at all network parks. CHIS will begin an inventory of reptiles and amphibians. Funds are also allocated for network coordination. The network anticipates that approximately $196,420 will be spent outside the NPS through agreement with the USGS and other agencies.

Vital Signs monitoring and water quality funding for 2002 ($150,000 and $76,000 respectively) is allocated toward salary and training for monitoring technicians for inventory/monitoring projects, a Vital Signs monitoring coordinator, and a water quality monitoring coordinator.

Budget Summary - Mediterranean Coast Network
FY 2001 Income and Expenditures

	NPS - WASO Inventory $$	Vital Signs Monitoring $$	WASO Water Quality $$	Park Base & Other Park $$	Partners & Other Agencies	In Kind Services
Funding Sources						
Servicewide I&M Program	201,777	150,000	76,000			
Park Base & Other NPS				83,600		
USGS and Other Agencies					20,000	
Total Income	$201,777	$150,000	$76,000	$83,600	$20,000	$0
FY01 Expenditures						
Personnel (salary and benefits)						
Network Inventory Coordinator	24,173			5,000		
I&M Database/GIS Technician	33,846	3,700				
I&M Field Technicians	28,700	58,292	17,000	25,000	20,000	
Administrative Assistant		979				
Monitoring Interns		580				
Biologist/Project Manager				25,500		
Ecologist				17,100		
Contracts and Cooperative Agreements						
USGS - Plant data mining for CABR, CHIS	41,262					
USGS - Inventory Coordination	4,700					
USGS - Herpetofauna Inventory	6,311					
University of California, Los Angeles - Revise SAMO Flora	38,000					
Envicom, Inc. (Botanist consultation) - Revise SAMO Flora	4,800					
Margaret Stassforth (voucher processing) - Revise SAMO Flora	2,400					
LA County Museum of Nat. History - Publish CHIS Specimen List	2,000					
Santa Barbara Museum of Nat. History - CHIS Bird Specimen Records	7,500					
San Diego Natural History Museum - Access to herbarium	301					
Resource Conservation District - Network Vital Signs Workshop (FY02)		6,000				
Resource Conservation District - Stream Monitoring		7,008				
ComputerEase - Digitize CHIS Monitoring Protocols		2,500				
Peace of Mind Technology - Access Database Consultation		2,500				
Resource Cons. Dist. - Compile Existing Water Quality Information			31,280			

Vendor - Analysis of SAMO invertebrates			14,000			
Subtotal WASO I&M contracting and cooperative agreements	107,274	18,008	45,280			
Total WASO I&M expenditures through federal outsourcing	$52,273					
Total WASO I&M expenditures through non-federal outsourcing	$45,200	18,008	45,280			
Operations and Equipment						
Field Supplies & Equipment	6,876	19,446	4,910			
Computers and office setup		43,435	4,771			
Office Supplies		308				
Vehicle lease - GSA	665	1,069	1,000	11,000		
Travel						
Travel and training	239	4,184	2,700			
Other						
Miscellaneous expenses	4	0	0			
Total Expenditures	$201,777	$150,000	$75,661	$83,600	$20,000	$0

Budget Summary - Mediterranean Coast Network
Proposed FY 2002 Income and Expenditures

	NPS - WASO Inventory $$	Vital Signs Monitoring $$	WASO Water Quality $$	Park Base & Other Park $$	Partners & Other Agencies	In Kind Services
Funding Sources						
Servicewide I&M Program	266,082	150,000	76,000			
Park Base & Other NPS				88,600		
USGS and Other Agencies						10,000
Total Income	$266,082	$150,000	$76,000	$88,600	$0	$10,000
FY01 Expenditures						
Personnel (salary and benefits)						
Network Monitoring Coordinator		46,000				
Network Inventory Coordinator	29,820			5,000		
I&M Database/GIS Technician		30,000				
I&M Field Technicians	34,873	68,000	25,000	25,000		4,000
Network Monitoring Coordinator - relocation expenses		2,000				
Network Water Quality Coordinator			35,000			
Biologist/Project Manager				25,500		
Ecologist				17,100		5,000
Contracts and Cooperative Agreements						
USGS - Exotic and Rare Plant Surveys at CHIS	55,622					
USGS - Bat Inventory at CABR	5,000					
SDSU - Exotic and Rare Plant Surveys at CABR	5,000					
SBBG - Rare Plant Species Inventory at CHIS	2,500					
Contractor TBD - Bat Inventory at SAMO	40,000					
Contractor TBD - Bat Inventory at CHIS	30,000					
Contractor TBD - Reptile & Amphibian Survey at CHIS	58,298					
Contractor TBD - Water Quality Monitoring Workshop			7,000			
Contractor TBD - Water Quality Samples Analysis			2,000			
Operations and Equipment						
Field Equipment & Supplies	4,969		2,000			1,000

Vehicle lease - GSA		2,000	1,000	16,000		
Office Supplies			1,000			
Travel						
Travel and training		2,000	3,000			
Other						
Miscellaneous expenses						
Total Expenditures	$266,082	$150,000	$76,000	$88,600	$0	$10,000